

GME

TX4800

COMMERCIAL

RADIO



INSTRUCTION MANUAL

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ACCESSORIES SUPPLIED

- TX4800 Radio
- Microphone
- Microphone Clip
- Instruction Manual
- Mounting Cradle for Main Unit
- Screw Pack
- DC Lead

If any items are missing or damaged, please contact the Dealer or place of purchase.

INTRODUCTION

The GME TX4800 Commercial Radio has been wholly designed and manufactured in Australia by Standard Communications Pty. Ltd. to meet the requirements of commercial radio users.

The TX4800 combines the very latest in electronic hardware with computer aided design and manufacturing techniques to produce a compact mobile commercial radio with outstanding features, specifications and performance.

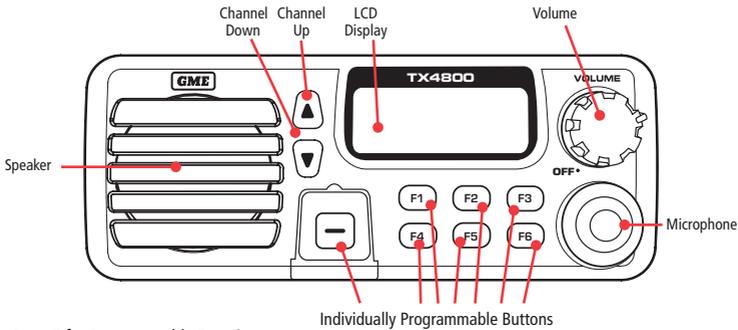
FEATURES

- Strong die-cast metal construction.
 - Tested to MIL-STD 810C/D/E standards for shock, vibration, humidity and dust.
 - Simple-to-use Controls - rotating On/Off Volume Control, Push Button, Channel Change and Function Keys.
 - Up to 99 Simplex and Semi-duplex channels.
 - An additional 40 UHF CB channels may be programmed if required, in the UHF model only.
 - Illuminated high contrast alpha-numeric Liquid Crystal Display (LCD) provides a visual indication of all selected functions at a glance.
 - Alpha-numeric labelling of selected channels and users simplifies channel selection and identification of incoming callers.
 - Four scanning modes available including 'Multi-trunk' (busy channel voting) and Signal Strength voting.
 - Transmitter output power of 25 Watts, switchable to 5 Watts.
 - The very latest surface mount component types,
- design and assembly techniques and quality control procedures are used to ensure the highest performance and reliability.

 - The TX4800 has been totally designed and manufactured in Gladesville NSW to meet the demanding needs of the Australian community.
 - Unique Transpond Mode allows you to transfer an incoming Selcall to another radio if the radio is unattended.
 - Microprocessor Controlled Frequency Synthesiser provides user programmable control of scanning, channel memories and selected feature options.
 - Permanent Memory retains all user settings in non-volatile memory even when the power has been removed.
 - DTMF Signalling using preprogrammed speed dial keys or optional MC540B microphone.
 - Built-in multi-standard Selcall (up to 8 tones) with Alphanumeric ANI.
 - A built-in Continuous Tone Coded Squelch System (CTCSS) and Digital Coded Squelch (DCS) provides quiet channel operation.

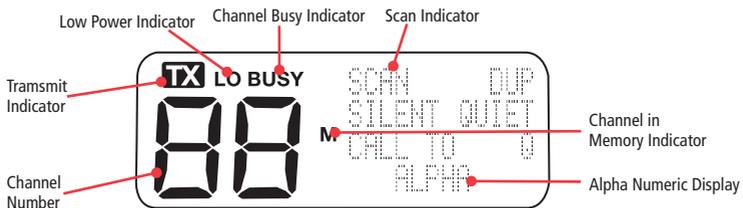
CONTROL LOCATIONS

FRONT PANEL CONTROLS



- See table on Page 5 for Programmable Functions.

STANDARD LCD INDICATORS



TURNING THE TX4800 ON OR OFF

Rotate the volume control clockwise past the 'click' to turn the TX4800 **ON**. Rotate the control fully counter clockwise past the click to turn the radio **OFF**.

ADJUSTING THE RECEIVER VOLUME

While receiving a signal, rotate the volume control to achieve a comfortable listening level.

If there are no signals present, press the **SQUELCH** key briefly to open the squelch, then adjust the volume while listening to the receiver's background noise. When finished, briefly press the **SQUELCH** key again to return the receiver to the quiet state.

If the radio does not have a **SQUELCH** key and there are no signals present, set the Volume control to the 11 o'clock position as a starting point.

NOTE: The minimum setting of the volume control has been factory preset so that, even with the volume turned right down, you can still hear a low level sound from the speaker.

SELECTING CHANNELS

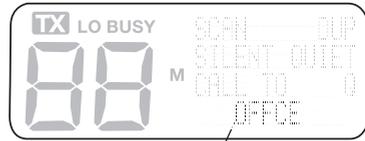
The channels in your radio are preprogrammed by the Dealer and are identified by numbers. In addition, each channel may also be programmed with an identifying name or 'alphanumeric label'. The label appears in the bottom right of the display.

To change channels, Pressing the ▼ button will select lower channel numbers, and pressing the ▲ button will select higher channel numbers.

Alphanumeric Labels

As well as identifying channels by their channel numbers, channels may be programmed with an alphanumeric label. Using labels with meaningful names makes it much easier to identify channels.

e.g. The channel on which you normally contact your office might be labelled **OFFCE** while a construction site channel might be labelled **SITE1**. In this way you no longer need to remember which channel numbers to select, you simply select the required channel by it's label.



Alphanumeric Label

Alphanumeric labels are preprogrammed into the radio by the Dealer.

TRANSMITTING

Before transmitting, check if the channel is already in use (i.e. 'BUSY' will be displayed). If the channel is busy, wait until it is clear before transmitting.

To transmit, press the **Push-To-Talk** (PTT) switch on the microphone. Hold the microphone about 2 - 6 cm from your mouth and slightly to one side so that you are speaking across the microphone, not directly into it. When talking, speak at a normal voice level. The microphone is quite sensitive so it is not necessary to raise your voice or shout.

NOTE: The radio may have been programmed to prevent it from transmitting when the channel is already in use. If this is the case, pressing the **PTT** switch while the channel is busy will result in a low beep and the transmitter will not function.

RECEIVING

Normal Reception

The radio will normally be muted (squelched) so that it is quiet when there are no signals. When a transmission is received, the radio will automatically un-mute itself to allow you to hear the call.

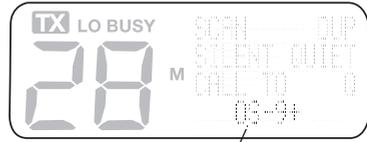
The BUSY Indicator

Whenever the channel is active, the 'BUSY' indicator will appear on the display. However, depending on the muting options programmed into the radio, you may not always hear any sound from the speaker. This can happen when sharing the channel but calls are not meant for you. For this reason it is important that you visually check that the channel is not busy before making a call to ensure you do not accidentally talk over someone else. In some cases the radio may be programmed with 'Busy Channel Lockout' to prevent it from transmitting while the channel is busy.

Signal Meter

The TX4800 may be programmed to display the strength of the incoming signal on the right of the LCD. If that section of the display is already being used, the signal strength may appear briefly when the signal is first received, then will return to the previous display.

NOTE: If required, the Signal meter can be programmed to be 'dB linear'. In this case, the display shows the signal strength directly in dB.



Signal Meter

PROGRAMMABLE FUNCTIONS

Function	-	F1	F2	F3	F4	F5	F6	CALL
Disabled								
Transmit Hi/Lo Power								
Monitor								
Squelch								
Talk-Around								
Scan								
OS/GS Toggle								
Page (Transpond)								
Quiet								
Recall CH M1								
Recall CH M2								
Recall CH M3								
Recall CH M4								
Speed Dial Selcall Memory								
Recall CH M1 + Dial Selcall Mem.								
Recall CH M2 + Dial Selcall Mem.								
Recall CH M3 + Dial Selcall Mem.								
Recall CH M4 + Dial Selcall Mem.								
Speed Dial DTMF M1								
Speed Dial DTMF M2								
Speed Dial DTMF M3								

Function	-	F1	F2	F3	F4	F5	F6	CALL
Speed Dial DTMF M4								
Recall CH M1 + Dial DTMF M1								
Recall CH M1 + Dial DTMF M2								
Recall CH M1 + Dial DTMF M3								
Recall CH M1 + Dial DTMF M4								
Recall CH M2 + Dial DTMF M1								
Recall CH M2 + Dial DTMF M2								
Recall CH M2 + Dial DTMF M3								
Recall CH M2 + Dial DTMF M4								
Recall CH M3 + Dial DTMF M1								
Recall CH M3 + Dial DTMF M2								
Recall CH M3 + Dial DTMF M3								
Recall CH M3 + Dial DTMF M4								
Recall CH M4 + Dial DTMF M1								
Recall CH M4 + Dial DTMF M2								
Recall CH M4 + Dial DTMF M3								
Recall CH M4 + Dial DTMF M4								
Call								
Monitor (Inverted)								
Monitor (Toggle)								
S-Meter (Toggle)								

Tick the boxes that match the function keys on the radio with the specific feature programmed by the Dealer.

The TX4800 can be programmed to suit specific customer requirements by enabling only those features that are useful to the customer's operation.

The following section describes the additional features available in the TX4800. In most cases only a few of these features will be enabled in a TX4800 at any one time. Many of the front panel keys are able to perform multiple functions depending on how they are programmed. In addition many of the functions can be programmed into more than one key which means that no specific key can be addressed as performing a particular function. It is therefore a matter for the Dealer to inform you of the keys that are enabled and what their functions are. Then refer to this manual to learn how to use the specific functions with which you have been provided. (The table on page 5 is provided to enable you to tick the appropriate boxes to match the 8 function keys with the specific functions programmed by the Dealer).

THE SQUELCH KEY

The Squelch (or mute) is used to eliminate any annoying background noise when there are no signals present. The TX4800 features a pre-set squelch system which can be switched ON or OFF using the **Squelch** key. When the squelch is OFF, the receiver's background noise will be heard (unless Quiet is enabled) and the 'BUSY' indicator will appear on the display. When the **squelch** is ON, the receiver will remain quiet when there are no signals present, but an incoming signal will overcome the squelch action and be heard in the speaker.

To disable the squelch, briefly press the **Squelch** key. A low beep will be heard. If there are no signals present, you will hear the receiver's background noise.

To re-enable the squelch, briefly press the **Squelch** key again. A high beep will be heard.

NOTE: Disabling the squelch will allow you to listen to all other callers on the channel, unless Selcall is in use and the **Quiet** key has been pressed as indicated by the icon on the display.

Setting the Squelch Sensitivity

If an incoming signal is very weak and is close to the minimum squelch level, it may become broken or 'chopped' by the squelch action. To prevent this, simply open the **squelch** to allow the signal to be heard clearly. Alternatively, you can reduce the squelch sensitivity as described above right.

The sensitivity of the squelch to incoming signals can be set to suit your operating environment. The TX4800 has three preset squelch sensitivity settings which can be selected using a front panel key sequence.

- **SQL1: Maximum Sensitivity**

The squelch will open even on very weak signals. This is the best setting for quiet country or rural locations where there are very few weak interfering stations or little locally generated interference.

- **SQL2: Medium Sensitivity**

The squelch will open on most signals, but will not be as sensitive to very weak signals or local interference. Suitable for general or suburban use.

- **SQL3: Minimum Sensitivity**

The squelch will open on reasonably strong signals and weak signals will not be heard. Suitable for inner city applications or areas of severe interference.

To pre-select the Squelch sensitivity

1. Turn the TX4800 OFF at the Volume control.
2. Hold the **F6** key while turning the unit back ON again.
3. Using the **▲** or **▼** buttons select SQL1, SQL2 or SQL3.
4. Turn the unit OFF again to store the setting.

THE HI/LO POWER KEY

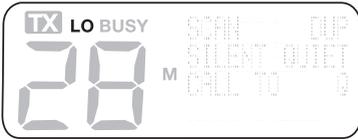
The **Hi/Lo Power** key is used to change the output power of the transmitter from its maximum level of 25 Watts down to 5 Watts. There are a number of reasons why you might want low power, including operating in close proximity to other radios or a nearby repeater, or conserving power when operating from a battery supply. If the other radios or the nearby repeater are some distance away, you should select **Hi Power**, to ensure maximum range.

NOTE: Some channels on the radio may be permanently programmed for Low Power. The Hi/Lo power key will be ignored on these channels.

To Select Low Power

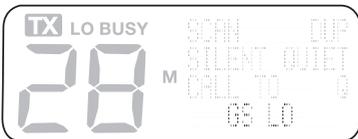
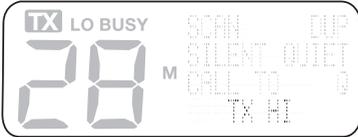
Briefly press the **LO Power** key. A low beep will be heard and **LO** will appear on the left of the display.

NOTE: If the radio gets too hot, it may automatically switch to low power to avoid damage.



To return to High Power mode

Briefly press the **Low Power** key again. A high beep will be heard and **TX HI** will appear momentarily on the lower left of the display.



REPEATERS AND TALK AROUND

Repeaters

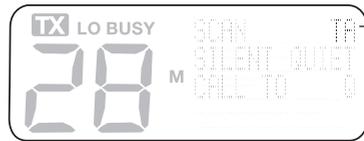
Some of the channels in the radio may be programmed for operation through a repeater system. The repeater is a transmitter/receiver system installed in a high location. It is used to increase the range of the radio by receiving calls and automatically re-transmitting them. Because the receiver and transmitter will be operating on different channels, you will not be able to talk directly to another radio except through the repeater.

Talk Around

The Talk Around feature is designed to overcome the problem of not being able to talk directly to another radio when a repeater channel is selected. It may be necessary to talk directly to another radio when out of range of the repeater. Instead of being isolated and not able to communicate, press the **Talk Around** button (if programmed) to force the radio to transmit and receive on the same channel. This will allow you to talk to other radios within direct range of your radio. Of course, the radio you want to talk to must also select **Talk Around** if they want to talk back to you. Note that the distance over which you can communicate will be much less than it would be through the repeater.

To Select Talk Around

Briefly press the **Talk Around** key. A high beep will be heard and **TA** will appear on the display. You can now talk to the other radio in the usual way.



Talk Around Symbol

To cancel Talk Around

Briefly press the **Talk Around** key again. A low beep will be heard and **TA** will disappear from the display.

THE MONITOR KEY

The monitor key is used to monitor (listen) to a channel that would normally remain squelched (quiet) under the control of a CTCSS or DCS tone. When subaudible squelch tones are being used, there may be other users talking on the channel (i.e. the **BUSY** icon appears on the display), but you will not be able to hear anything. Pressing the **Monitor** key overrides the subaudible squelch code to allow you to hear these signals. The **Monitor** key is often used to check that the channel is clear before transmitting.

To listen for Signals on the Channel

Press and HOLD the **Monitor** key to listen for signals on the channel. A low beep will be heard as the key is pressed. The key must be held down continuously for the signals to be heard. Release the key to return to quiet CTCSS/DCS operation. You will hear a high beep.

NOTE: Pressing the Monitor key does not open the Squelch, it simply overrides the CTCSS/DCS tone decoder. If there are no signals on the channel, the radio will still remain quiet and no receiver noise will be heard.

PROGRAMMING RECALL CHANNELS

Any of the function keys can be programmed for use as Recall channels. These allow you to select an often-used channel with a single key press. Recall channels can either be preset by the Dealer, or made user programmable to allow you to store your own choice of channels. If one or more of these keys are enabled for use as user programmable recall channels, you can program your own channels as follows over page:

1. Select the channel you wish to store by pressing the channel buttons.
2. Press and HOLD the appropriate Channel Recall key (**F1, F2, F3, F4, F5, F6, A** or **CALL**). The channel display will flash for a second or so, then the radio will beep. The channel is now stored.
3. Repeat steps 1 and 2 to program any other Channel Recall keys that may be available.

SCANNING

The Dealer may have a scanning feature programmed into the radio. If so, the following section describes how to use this feature.

OVERVIEW

The scanning function allows the radio to step through a number of selected channels while searching for signals. If a signal is found, the radio pauses on that channel to allow the signal to be heard. When the signal has gone, the radio resumes scanning for further signals. Exactly how the scanning feature reacts to a signal will depend on the options programmed into your radio.

In the following section, the working channel (sometimes called the Priority channel) is defined as the channel where others would normally expect to be able to contact you and is most probably where you would do most of your communicating.

SCAN GROUPS

There are two possible scan groups available. These are called **Open Scan (OS)** and **Group Scan (GS)**. The radio may be programmed with either one of these groups or it may have both groups programmed.

- **Open Scan (OS)** allows any of the programmed channels to be scanned in an ascending sequence (i.e. from the lowest channel number to the highest).
- **Group Scan (GS)** also allows any of the programmed channels to be scanned in an ascending sequence, but in addition, it inserts the main working channel into the scan sequence. The working channel is then monitored regularly while scanning to ensure that no calls are missed. Any signal received on the working channel has priority and will override any signals received on the other channels.

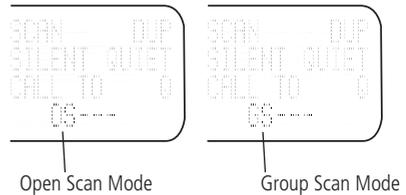
Selecting a Scan Group

If you have been given the option of selecting scan groups, one of the function keys on the radio will be programmed for **OS/GS** selection. The current scan group

is normally displayed in the lower right of the LCD as **OS** for Open Scan or **GS** for Group Scan.

To change the Scan Group

Briefly press the **OS/GS** key. A beep will be heard and the display will change to indicate the group you have selected.



NOTE: If the selected channel is displaying an alphanumeric label, pressing the **OS/GS** key will cause the display to change to '**OS**' or '**GS**' briefly, before returning to the alphanumeric label.

Programming the Working (Priority) Channel

For the purpose of Group Scan, the Working Channel is usually programmed by the Dealer. When programmed, the working channel becomes the channel of priority in the Group Scan mode.

The working channel is normally stored in channel memory No.1. If one of the Function buttons on the radio has been programmed to allow recall of channel memory 1 and 'Recall Channel Editing' has been enabled, you can edit the working channel as follows:

1. Press the '**Recall Channel Memory 1**' function key on your radio.
2. Select the required working channel using the channel selector switch.
3. Press and hold the '**Recall Channel Memory 1**' function key until the radio beeps. The channel display will flash for a moment and the selected working channel will be saved.

Programming the Scan Channels

Depending on your application, EITHER:

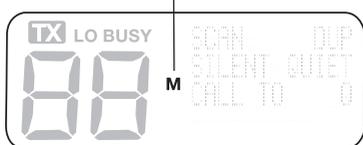
1. Your scan channels will have been preprogrammed by the Dealer.
- OR**
2. You will have been given the option to program your own group of channels.

If you are able to program scan channels, please read the following section.

To program the Scan Channels

1. Select the required scan group using the **OS/GS** key. (If your radio has alphanumeric labels, refer to the section on changing the scan group on the previous page).
2. Select the required channel using the channel buttons.
3. Press and HOLD the **Scan** key until a high beep is heard. **M** will appear on the display to indicate the channel is now stored in memory.

Indicates selected channel is stored in memory



4. Repeat steps 2 and 3 to add other channels to the scan memory.

To remove Channels from the Scan Memory

1. Select the required scan group - either Open Scan (OS) or Group Scan (GS).
2. Select the required channel using the channel buttons. Check that **M** is displayed indicating that the channel is in the scan memory.
3. Press and HOLD the **Scan** key until a low beep is heard. **M** will disappear from the display to indicate the channel is no longer in memory.
4. Repeat steps 2 and 3 to remove other channels from the scan memory.

Selecting Scan

Once you have your selected groups programmed, you can scan the channels in these groups using the Scan key.

To begin Scanning

1. Briefly press the **Scan** key. A high beep will be heard and the radio will begin scanning.
2. Press the **OS/GS** key (if fitted) to select the required scan group. **OS** or **GS** will be displayed.

To cancel Scanning

Briefly press the **Scan** key again. A low beep will be heard and the radio will stop scanning

Scanning in Open Scan Mode

While scanning in **Open Scan** mode, the radio will display rapidly changing numbers to indicate the channels being scanned. In addition the lower section of the LCD will display **OS** (indicating the Open Scan mode is selected), along with the number of the last selected channel. If any channels have alphanumeric labels, the labels will not be displayed while scanning.

Receiving on a Busy Channel

If a signal is received, the receiver will lock onto that channel and will remain there for as long as the channel is busy - and for 5 seconds after the transmission ceases. This allows the TX4800 to hold the channel between short breaks in the conversation. Once the channel has remained clear for 5 seconds, the radio will resume scanning.

Skipping over a Busy Channel

If you don't wish to listen to a busy channel, you can skip over it by briefly pressing the **Skip** button on the microphone. The receiver will immediately resume scanning.

Holding onto a Busy Channel

To manually hold a busy channel, briefly press the PTT switch. Scanning will pause and **M** will be displayed. You can now transmit and receive on that channel in the usual way. **SCAN** will still be displayed to remind you that the Scan function is only inhibited temporarily.

To resume scanning press the **Skip** button on the microphone. **M** will disappear and scanning will resume.

To cancel Scanning

Briefly press the **Scan** key.

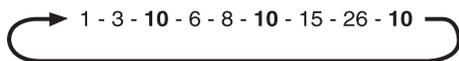
- If the radio was stopped on a busy channel when scan was cancelled, it will remain on that channel.
- If the radio was scanning when scan was cancelled, it will return to the last selected channel (as displayed in the bottom right of the display).

Scanning in Group Scan Mode

Scanning in Group Scan mode will allow you to transmit and receive normally on the working (priority) channel but will also let you scan and listen to several other channels when the working channel is free. The receiver will continue to scan the other Group Scan channels ONLY WHILE THERE ARE NO SIGNALS ON THE WORKING CHANNEL. Pressing the PTT switch at any time will take you straight to the working channel.

The working channel is normally scanned after every second Group Scan channel (although this can be altered by the Dealer).

e.g. Using working channel 10 with group Scan channels 1, 3, 6, 8, 15 and 26.



As with the **Open Scan** mode, your radio will display rapidly changing numbers to indicate the channels being scanned. In addition the lower section of the LCD will display **GS** to indicate that it is the **Group Scan** mode, along with the working channel number. If any channels have alphanumeric labels, the labels will not be displayed while scanning.

Receiving Signals on the Working Channel

If a signal appears on the working channel while scanning, the receiver will lock onto the channel and will remain there for as long as the channel is busy - and for 5 seconds after the transmission ceases. This allows the TX4800 to hold the channel between short breaks in the conversation. Once the channel has remained clear for 5 seconds, the radio will resume scanning.

If a signal appears on the working channel while the radio is locked onto a Group Scan channel, the receiver will switch straight to the working channel. The receiver will now continue to monitor the working channel for as long as it remains busy. During this time you can transmit on the working channel in the usual way.

Receiving Signals on a Group Scan Channel

If a signal is received on a Group Scan channel, the receiver will lock onto it and will remain there for as long as the channel remains busy, and for 5 seconds after the transmission ceases - AS LONG AS THERE ARE NO SIGNALS ON THE WORKING CHANNEL. During this time, the receiver will continue to check for signals on the working channel every couple of seconds resulting in a series of small breaks in the reception of the "locked" channel. If no signals are heard on the "locked" channel after 5 seconds, the radio will resume normal scanning.

To stay on a busy Group Scan channel, briefly press the **Scan** key. The radio will exit the Scan mode and stay on the busy channel. You can now transmit normally on that channel.

NOTE: At this point the radio will no longer be monitoring the working channel.

To resume Group Scan briefly press the **Scan** key again.

SELECTIVE CALLING

OVERVIEW

If Selcall has been enabled on the radio, it will have been preprogrammed with its own unique identifying code. The radio may also allow you to transmit these Selcall codes, allowing you to call others who are also using the Selcall system.

'Selective Calling' is a secure signalling system that allows individual radios to be selectively called without disturbing other radio's sharing the same channel. Each radio can be preprogrammed with a unique code (called a Selcall Ident). The radio can then be set to remain totally quiet while it monitors the channel for Selcall signals. Any incoming Selcall code is compared with its own code. If the two codes match, it knows it is being called and sounds an alarm to alert you. It also displays the caller's unique code or an alphanumeric label identifying the caller to you. In this way, even if you are away from your radio when the call is received, you will still know that you were called. You can then return the call at your convenience. If further calls are received, the most recent caller is displayed.

A special group code may also be available to you which will allow specific groups of radios to be selectively called without disturbing other individuals or groups.

OPERATING IN THE QUIET MODE

The QUIET mode prevents any incoming transmissions from being heard in the TX4800's speaker until your Selcall Ident is received. This allows you to monitor a busy channel for calls without being disturbed by unwanted signals.

When the Selcall Ident is received, the QUIET mode is cancelled and all incoming signals will be heard in the speaker.

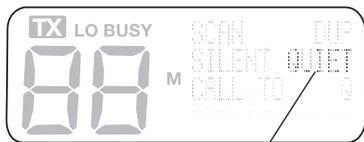
If your radio is programmed with a **Quiet** key, you will be able to manually set your receiver's Selcall 'Quiet' muting system. If not, the radios quiet muting system will have been preset for you by the Dealer.

The QUIET Key

If fitted, the **Quiet** key can be used with Selcall to enable or disable quiet operation.

- When Quiet is enabled, you will not hear any signals on the channel until someone specifically calls you using Selcall.
- When Quiet is disabled, you will be able to hear all transmissions on the channel.

When quiet is enabled, you will see the **QUIET** icon on the display.



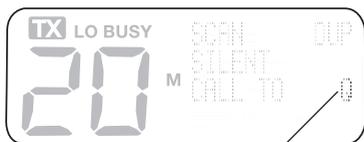
QUIET is enabled on this channel

The radio may be programmed to allow you to select those channels you wish to use as quiet channels. This is done by tagging the channels that you want to stay quiet. Then, when QUIET is activated, the channels you have tagged will remain quiet to all incoming signals. Channels not tagged will operate normally. The **Quiet** key is also used to tag these channels.

To Tag a Channel for use in the QUIET Mode

1. Select the required channel using the channel selector.
2. Press and HOLD the **Quiet** key until a high beep is heard.

The **Q** icon will appear on the display, indicating that the selected channel is now tagged for use with Selcall in the QUIET mode.



Selected channel is tagged for QUIET mode

3. Repeat steps 1 and 2 to tag any other channels.

To Activate the QUIET Mode

1. Select a channel which has been tagged for quiet operation (**Q** will be visible on the display)
2. Briefly press the **Quiet** key.

A high beep will be heard and the **QUIET** icon will appear on the display.

Now all channels that have been tagged for quiet operation will stay quiet unless a Selcall is received. Channels that are not tagged will still allow all signals to be heard.

NOTE: You cannot activate the Quiet mode unless you have selected a 'tagged' channel with 'Q' displayed.

To De-activate the QUIET Mode

1. Select a channel that has been tagged for quiet operation (**Q** and **QUIET** will be visible on the display)
2. Briefly press the **Quiet** key. A low beep will be heard and **QUIET** icon will disappear from the display and all channels tagged for Quiet operation will now operate normally again.

To Remove the QUIET Tagging

1. Select a channel that has been tagged for Quiet operation. **Q** will be displayed to the right of the channel number.
2. Press and HOLD the **Quiet** key until a low beep is heard. The **Q** icon will disappear from the display, indicating that the selected channel is no longer tagged for use with Selcall in the Quiet mode.

Receiving Signals in the QUIET Mode

- If a normal signal is received on a QUIET channel, the channel will appear busy but no sound will be heard from the speaker. This means you will not be disturbed by the signal.
- If a normal signal is received on an Open channel (one that is not tagged with 'Q') the signal will be heard in the usual way.
- If a signal containing your Selcall Ident is received on any channel - Open or QUIET - the QUIET mode will be cancelled and the alarm will beep to alert you to the call. In addition, the callers Ident or Name will be displayed. All channels will now be open for normal transmission and reception.

Scanning in the QUIET Mode

The TX4800 may be programmed to allow you to scan while the QUIET mode is active. You can then monitor a group of Quiet channels or a combination of Quiet and Open channels.

To Scan in the QUIET Mode

1. Press the **OS/GS** key to select the required Scan group (if available).
2. Select the channels you wish to remain Quiet and tag each one with '**Q**'.
3. With a tagged channel selected, briefly press the **Quiet** button to activate the QUIET Mode.
4. Now press the **SCAN** key. The radio will begin scanning and '**SCAN**' will be displayed.

- If a normal signal is received on an open channel, scanning will pause while the channel is busy and will resume scanning 5 seconds after the channel becomes clear. (If you were scanning in GS mode, the radio may switch between the open channel and the Priority channel - this is normal).
- If a normal signal is received on a Quiet channel but your Selcall Ident is not detected, the signal will be ignored and scanning will continue.
- If a signal containing your Selcall Ident is received on any channel - Open or Quiet - both scanning and QUIET modes will be cancelled and the receiver will stay on that channel. In addition, the alarm will beep to alert you to the call and the caller's Ident will be displayed. The channel will now be open for normal transmission and reception.

SENDING A SELCALL

There are several ways to make a Selcall transmission. The method you use will depend on the options programmed into the radio.

Sending a Selcall using the Selcall 'Speed Dial' Memories

Selcall 'Speed dial' memories are used when the radio has been preprogrammed with the necessary Selcall codes for a group, with no provision to manually alter them.

'Speed Dial' memories are programmed into one or more of the function keys.

To send a Selcall using a 'Speed Dial' memory, press and HOLD the appropriate key (**F1, F2, F3, F4, F5, F6, A** or **CALL**) for a few seconds until a beep is heard. The TX indicator will be displayed as the Selcall code is sent.

If the Selcall is successful, you will hear two quick beeps in the speaker. This is an acknowledge signal, sent back to you from the radio called. It is used to confirm that your Selcall was received.

Sending a Selcall using the Selcall 'Speed Dial' Memories with 'Channel Recall'

Your 'Speed Dial' memories may have been programmed to recall a specific channel before sending the Selcall.

To send a Selcall using a 'Speed Dial' memory programmed with 'Channel Recall', simply press and HOLD the appropriate key for a few seconds until a beep is heard. The radio will change to the preprogrammed channel, and the TX indicator will be displayed as the

Selcall code is sent. The radio will then stay on the preprogrammed channel.

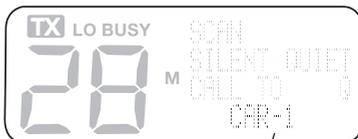
If the Selcall is successful, you will hear two quick beeps in the speaker. This is an acknowledge signal, sent back to you from the radio called. It is used to confirm that the Selcall was received.

Sending a Selcall using the preprogrammed 'Call To' Selcall Memories

The radio has provision to hold up to 40 preprogrammed Selcall ident in its 'Call To' memory. These memories are likely to have been preprogrammed by the Dealer. However, provision may have been given to allow you to edit these memories yourself.

Selecting the 'Call To' Memories if available

1. Briefly press the Call button, 'Call To' will appear on the display, along with the Selcall ident for memory location 1. If the radio is in Alpha mode, the ident may display a label representing the ident instead of the ident number.

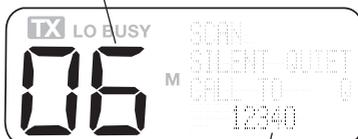


Selcall Label displayed in Alpha Mode

NOTE: If no user input is detected for 20 seconds, the radio will return to normal mode and you will have to begin again.

2. Press either the ▲ or ▼ buttons to step through the available Selcall memories. The selected selcall memory number is displayed in the channel display area.
3. If there are Alpha labels associated with the Selcall ident, you can switch between Alpha and Numeric display modes by briefly pressing the **Volume** knob. ALPHA or NUMER will appear briefly in the selcall display area to indicate the selected mode.

Selcall memory location



Selcall Ident or Label

To transmit the selected Selcall ident while in the Call To mode, press and hold the **Call** button for a few seconds until a beep is heard. The **TX** indicator will appear on the display and the selected selcall will be transmitted. The radio will then return to normal operation.

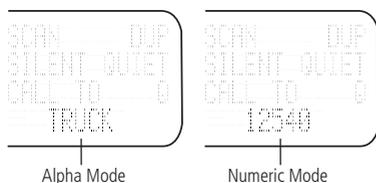
NOTE: Of the 40 available memory locations, 1 thru 38 are available for user defined or preprogrammed Selcall memories. Location 39 contains the Pager Ident. If the Pager feature is disabled, then this memory location is also available as a user defined memory. Location 40 is reserved for the 'last-sent' selcall ident and is not editable.

Editing the Preprogrammed 'Call To' Selcall Memories.

If the Dealer has enabled 'Selcall Memory Editing' on your radio, you can program and store your own Selcall Ident memories and associated Alpha labels as follows.

Tip: The memory is programmed in two stages with the Numeric Ident being programmed first, followed by the Alpha label if required. Each memory should be programmed in one continuous process. If no user input is detected for 20 seconds, the radio will return to normal mode and you will have to begin again.

1. Briefly press the **Call** button, '**Call To**' will appear on the display, and the Selcall ident for memory location 1 will be displayed. If the radio is in Alpha mode, the ident may display a label representing the ident instead of the ident number itself. If there is no label programmed, the selcall display area will be blank when in Alpha mode.
2. Pressing the **▲** or **▼** selector to select the required Selcall memory. The selected selcall memory number is displayed in the channel display area.
3. Briefly press the **F6** key to select the Numeric mode. **NUMER** will appear briefly in the Selcall display area when Numeric mode is selected.



4. To enter the EDIT mode, press and hold the **F5** Key until a beep is heard. '**EDIT**' will appear briefly in the

selcall display area and the right hand selcall digit will begin flashing.

5. Select the required digit using the **▲** or **▼** buttons to alter the flashing digit. When the correct digit is displayed, briefly press the **F5** key to move to the next digit. Continue the process until the required Selcall ident is displayed.
6. Now press and hold the **F5** key again to store the Ident. All the digits will flash, then the radio will beep and '**SAVED**' will appear briefly in the selcall area.
7. To program an Alpha Label, briefly press the **F6** key. '**ALPHA**' will appear briefly in the selcall area.
8. Enter the EDIT mode again by pressing and holding the **F5** key until a beep is heard. '**EDIT**' will appear briefly in the selcall display area.
9. Using the **▲** or **▼** buttons to select the 'rightmost' character of the label you wish to enter. When done, briefly press the **F5** key to move left to the next character position. Continue the process until the required label is displayed. Up to 5 characters can be entered.
10. Now press and hold the **F5** key again to store the Label. All the characters will flash, then the radio will beep and '**SAVED**' will appear briefly in the selcall area.

Briefly press the **Call** button again (or wait 20 seconds) to return to normal mode.

The following characters can be selected in the Alpha mode:



Sending individual Selcalls

If this feature is available, you can enter and send individual selcall codes without the need to store or retrieve them from the memory.

1. Briefly press the **Call** button. '**Call To**' will appear on the display, along with the Selcall ident for memory location 1.
2. If the radio is in Alpha mode, briefly press **F6** to select the Numeric mode. '**NUMER**' will appear briefly in the selcall display area to indicate the selected mode.
3. Press and hold **F5** until a beep is heard. '**EDIT**' will appear briefly in the selcall display area and the right hand selcall digit will begin flashing.

- Press the ▲ or ▼ buttons to alter the flashing digit. When the correct digit is displayed, briefly press **F5** to move to the next digit. Continue the process until the required Selcall ident is displayed.
- Now press and HOLD the **Call** button to transmit the Selcall code. The **TX** indicator will appear on the display as the Selcall code is sent.

NOTE: You must send the Selcall code within 20 seconds of the last key press otherwise the Call To mode will be cancelled and the code will be lost.

If your Selcall is successful, you will hear two quick beeps in the speaker confirming to you that your Selcall was received.

GROUP SELCALLS

The TX4800's Selcall system may have been programmed with a Group Call function. Group Calling can allow you to call groups of up to 10 radios, groups of up to 100 radios or 1000 simultaneously, depending on how the radio is programmed. This could be useful in an emergency situation where you may need to transmit a message to a number of radios in your group.

The Group Call function works by allowing you to enter a special 'group code' into the last digit positions of the Selcall Ident you are sending. The 'group code' appears as an 'A' when displayed in the radio. When this 'group code' is received, it substitutes for any other number in the last digit positions. As long as the first digits of the Selcall you are sending match those of the radios you are calling, their Selcall alarms will be activated as if their full 5 digit Selcall Idents had been received.

To achieve this, the radios you are calling must be programmed with sequentially numbered Selcall Idents.

e.g. For groups of 10 radios, the Selcall idents might be: **12030, 12031, 12032, 12033 . . . -> , 12039.**

Transmitting the Selcall Ident **12031** will only activate the alarm in the radio with the Selcall ident of **12031**

- However, transmitting **1203A** will activate the alarms in all radios with Idents **12030** through **12039** (a total of 10 radios).

Similarly, if there were 100 radios in the group, simply insert **A** into the last TWO digit positions of the Selcall code you are sending. This will substitute for any numbers in the last TWO digit positions.

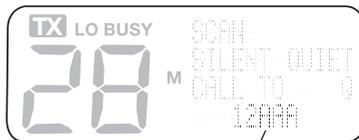
i.e. Transmitting **123AA** would activate all radios with Selcall Idents of **12300** thru **12399**.

If the radios in the fleet do not have sequentially numbered Selcall Idents and you want to make use of this function, you can arrange for the Dealer to re-program the radios.

Programming and Sending Group Calls

If the radio is fitted with Group Calling, you can make Group Calls as follows:

- Briefly press the **Call** button. '**Call To**' will appear on the display, along with the Selcall ident for memory location 1.
- If the radio is in Alpha mode, briefly press the **F6** key to select the Numeric mode. '**NUMER**' will appear briefly in the selcall display area to indicate the selected mode.
- Press and hold **F5** until a beep is heard. '**EDIT**' will appear briefly in the selcall display area and the right hand selcall digit will begin flashing.
- Press the ▲ or ▼ selector to alter the right hand flashing digit. Set this digit to 'A'. Now briefly press **F5** to move to the next digit. If you are calling groups of up to 100 radios, set this second digit to 'A' too, otherwise select the required digit. Continue the process until the required Selcall ident is displayed.



Calling up to 1000 radios

To Send the Selcall Ident

With the required Selcall Ident displayed in the 'CALL TO' mode, press and HOLD the **Call** button to transmit the Selcall code. The **TX** indicator will appear on the display as the Selcall code is sent.

NOTE: You must send the Selcall code within 20 seconds of the last key press otherwise the **Call To** mode will be cancelled and the code will be lost.

Call Acknowledge in Group Mode

There is no call acknowledge when sending group calls. This is to prevent all the radios in your group from trying to respond to your Selcall transmission at the same time.

Storing Group Call Idents

Group Call Idents can be stored in memory in the same way as a standard Selcall Ident.

Simply follow the instructions for storing Selcall Idents in memory as described earlier in this manual.

Receiving Group Calls

Receiving a Group Call is identical to receiving a normal Selcall except that the alarm sound is a LOW tone beep instead of the normal High tone beep. The Callers Ident or Name appears on the display in the usual way.

DTMF (DUAL TONE MULTIPLE FREQUENCY)

DTMF signaling can be used for dialling telephone numbers or activating devices by remote control. If DTMF is available on the radio, the method you will use to send DTMF signals will depend on the options programmed.

Using the DTMF 'Speed Dial' Memories

DTMF 'Speed dial' memories are used when the radio has been preprogrammed with the necessary DTMF tone sequences for your application, with no provision to manually alter them.

DTMF 'Speed Dial' memories may be programmed into one or more of the function keys (**F1, F2, F3, F4, F5, F6, A** or **CALL**).

To send a DTMF signal using a 'Speed Dial' memory, press and HOLD the appropriate function key (**F1, F2, F3, F4, F5, F6, A** or **CALL**) until a high beep is heard. The **TX** indicator will appear on the display as the DTMF tone sequence is sent.

Using the DTMF 'Speed Dial' Memories with 'Channel Recall'

The DTMF 'Speed Dial' memories may also have been programmed to automatically go to a specific channel before sending your DTMF signal.

To send a DTMF signal using a 'Speed Dial' memory programmed with 'Channel Recall', press and HOLD the appropriate function key (**F1, F2, F3, F4, F5, F6, A** or **CALL**) until a high beep is heard. The radio will change to the preprogrammed channel and the **TX** indicator will appear on the display as the DTMF signal is sent. The radio will then stay on the preprogrammed channel.

PAGE MODE

If enabled by the Dealer, the PAGE or transpond feature allows you to leave your radio unattended yet still be informed of any incoming Selcalls. If your Selcall Ident is received while your TX4800 is in the PAGE mode, it will automatically call another radio to alert you to the call.

NOTE: To allow your TX4800 to operate in the PAGE mode when your vehicle is unattended, your radio must be wired so that it has a continuous 13.8 Volt power source even when the vehicles ignition is switched off (see installation instructions).

Selecting the Paging Channel

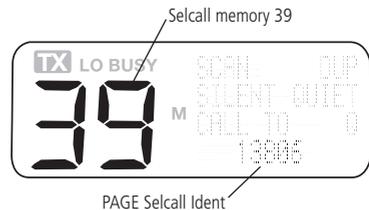
Your TX4800's Paging channel is preprogrammed by the Dealer.

Setting the Paging Ident

The PAGE Ident is the Ident of the receiver you will use to receive the paging call. Depending on your requirements, the Paging Ident may be fixed by the Dealer, or provision may have been given for you to programme it yourself. It is programmed in the same way as Selcall Idents and is stored in Selcall memory 39.

To program the Paging Ident

1. Briefly press the Call button. 'Call To' will appear on the display, and the Selcall ident for memory location 1 will be displayed. If the radio is in Alpha mode, the ident may display a label representing the ident instead of the ident number itself. If there is no label programmed, the selcall display area will be blank when in Alpha mode.
2. Press the ▲ or ▼ selector switch to select Selcall memory. The selected selcall memory number is displayed in the channel display area. If Alpha mode is selected, 'PAGER' will be displayed in the Selcall area.



3. Briefly press the **F6** key to select the Numeric mode. 'NUMER' will appear briefly in the Selcall display area when Numeric mode is selected.
4. To enter the EDIT mode, press and hold the **F5** key until a beep is heard. 'EDIT' will appear briefly in the selcall display area and the right hand selcall digit will begin flashing.
5. Press ▲ or ▼ to alter the flashing digit. When the correct digit is displayed, briefly press **F5** to move to the next digit. Continue the process until the required Selcall ident is displayed.

6. Now press and hold **F6** again to store the Ident. All the digits will flash, then the radio will beep and 'SAVED' will appear briefly in the selcall area.

Viewing the Page Ident Memory

To view the Ident or Name stored in the page memory:

1. Briefly press the **Call** button on the microphone. 'Call To' will appear on the display, and the Selcall ident for memory location 1 will be displayed.
2. Press **▲** or **▼** to switch to select Selcall memory 39. The selected selcall memory number is displayed in the channel display area. If Alpha mode is selected, 'PAGE' will be displayed in the Selcall area.

Activating the Page Mode

Select the Page mode by briefly pressing the **PAGE** function key on your radio.

'PAGE' will be displayed in the Selcall area and the display lighting will extinguish after 10 seconds to conserve power in case the radio is to be left in Page mode for an extended period. This also makes the radio less visible if it is left in an unattended vehicle at night.

Deactivating the Page Mode

To de-activate the page mode, briefly press the **PAGE** function key again.

Receiving your Selcall in Page Mode

If the TX4800 receives its own Selcall Ident while in the PAGE mode, it will temporarily switch to the paging channel, check that the channel is not in use, then transmit the paging Ident to the other receiver. It will then return to the channel on which the original call was received, activate its own Selcall alarm and display the caller's Ident.

Meanwhile the other receiver will be beeping to tell you that someone has called you. You can then return to your TX4800, identify the caller's Ident and return the call.

The page mode can be used either while monitoring a single channel or while scanning in open scan or group scan mode.

Monitoring a Single channel in the PAGE Mode

To monitor a single channel in the Page mode, simply select the channel you wish to monitor, then select the Page mode by holding the Call button down and pressing **F5**.

With the Page mode selected, the radio will operate normally and you can transmit and receive on the selected channel.

- If the selected channel has been tagged for Quiet operation, the QUIET mode will be automatically selected and 'QUIET' will be displayed. In this case, you will not be able to transmit.
- If your Selcall Ident is received, your TX4800 will send an acknowledge beep back to the caller then change to the Paging channel and transmit the Page Ident. It will finally return to the selected channel, sound the alarm and display the Ident or Name of the caller.

Scanning in the Page Mode

To Scan in the Page mode, simply select the required scan group, program the required channels, then briefly press the **SCAN** key. The radio will begin scanning.

Now select the **Page** mode by holding the **Call** button down and pressing **F5**.

To Return a Call in the PAGE Mode

If you return to your radio and it is beeping, briefly press **F5**. The radio will exit the PAGE mode and 'CALL FROM' will be displayed along with the Ident or Name of the caller.

Briefly press the **Call** button. 'CALL TO' will be displayed along with the Ident or Name of the caller. Now press and hold the **Call** button for a few seconds until the radio beeps. The caller's Selcall Ident will be sent. If the call is successful, you will hear two quick acknowledge beeps in your radio's speaker as the caller's radio responds.

CTCSS & DCS

CTCSS (Continuous Tone Coded Squelch System) and DCS (Digital Coded Squelch) are quieting systems that allow a group of radios to talk to each other without hearing other users on the channel. The system applies a continuous low level tone to your transmission, and a matching tone decoder to your receiver's squelch. When CTCSS and DCS are enabled the channel remains quiet until someone transmits using the same tone. When the transmission ends, the channel becomes quiet again. By using different tones, several groups of people can share the same channel without disturbing each other.

If CTCSS or DCS has been enabled by the Dealer, it will have been preset on specific channels.

INSTALLATION

NOTE: The TX4800 is designed for connection to negative earth electrical systems only.

SELECTING A LOCATION

It is advisable to spend a little time selecting the best location for the TX4800. The mounting bracket can be rotated above, below or behind the radio enabling the radio to be mounted in a wide range of locations. In addition, using the optional flush mounting kits (MK600, MK001, MK002) the TX4800 can be mounted directly in a panel or dashboard.

Upright or Overhead Mounting

Keep the following points in mind when choosing a location.

- The TX4800 is designed to meet the IP67 specification which allows for direct water spray. However, we recommend you select a location that will minimise excessive exposure to water splashes or continuous rain.
- Select a location that won't expose your radio to continuous direct sunlight which could cause overheating or UV degradation.
- Ensure that the location allows a free flow of air around the heat sink on the back of the radio.
- The microphone and all controls should be readily accessible and the loud speaker easily heard from the normal driving position.
- For best results connect the battery leads directly to the vehicle's battery. If you need to extend the power leads to reach the battery use heavy insulated automotive wire of at least #10 gauge.

INSTALLING THE UNIT

After choosing your location, hold the unit with the mounting bracket attached into the desired position and mark the location with a pencil. Remove the mounting bracket from the radio and drill the mounting holes. Bolt or screw the bracket in place using hardware suitable for the mounting surface. The unit is supplied with stainless steel screws; however, if the mounting surface is unsuitable for screws you may need to replace these with stainless steel bolts.

DC Connections

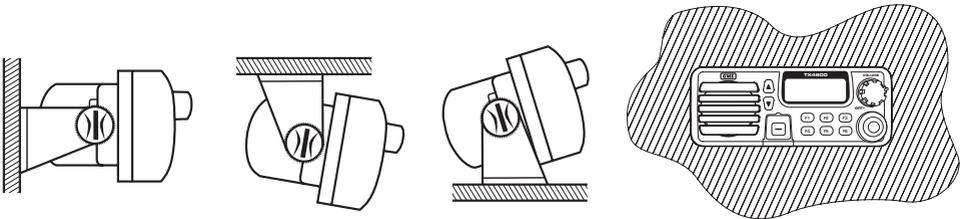
Connect the RED power lead to the Positive (+) side of the battery or to an accessory point in the fuse box.

Connect the BLACK power lead to the negative (-) side of the battery or to a suitable ground point.

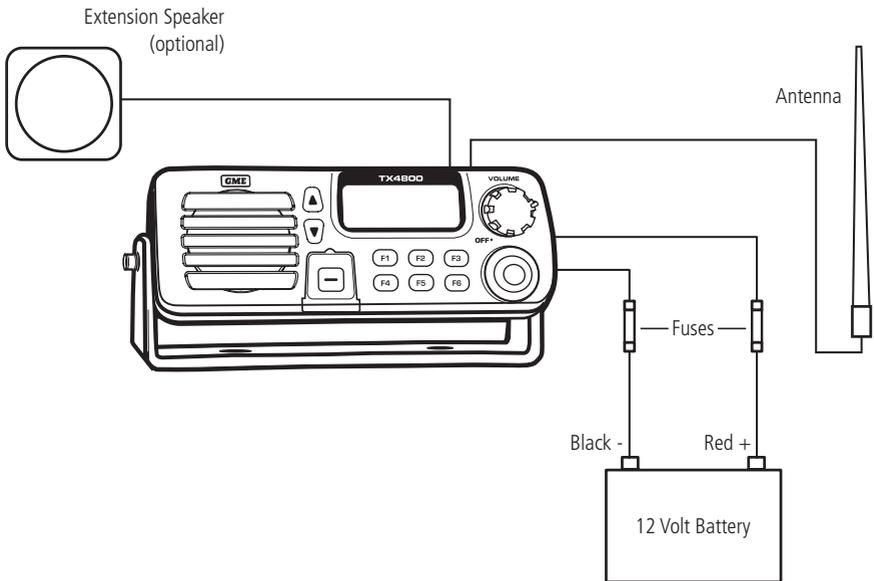
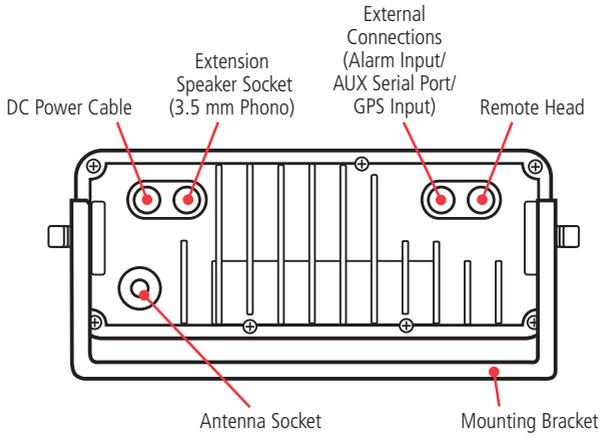
Note: The power lead is supplied with two 10 Amp fuses. If the fuse blows, use only a standard 10 Amp BLADE fuse as a replacement. Use of higher rated fuses or 'slow blow' types could result in damage to your radio which would void the warranty.

Connect the antenna cable to the rear antenna socket on the radio using a BNC coaxial connector.

In a high noise environment an extension speaker may be installed close to the operator. The internal speaker may be disconnected if required.



RADIO CONNECTIONS



SPECIFICATIONS*

GENERAL

RF performance:	Compliant with AS4295
Frequency Bands:	136 to 174 MHz 400 to 470 MHz 450 to 520 MHz
Number of Channels:	99
Channel Spacing:	25 kHz/12.5 kHz/6.25 kHz
Frequency Stability:	±1 kHz
Modulation:	FM
Operation Mode:	Simplex or Half Duplex with Repeater Talk-around.
Scanning Speed:	50/100/200 ms per channel
Antenna Impedance:	50 Ohms Nominal
Antenna Connector:	BNC
Nominal Voltage:	12 Volts DC Negative Earth
Operating Voltage Range:	10.8 to 15.6 Volts
Test Voltage:	13.8 Volts DC
Reverse Polarity Protection:	Diode Crowbar
Over Voltage Protection:	18 Volt Crowbar 10 Amp in line fuse.
D.C. Current:	0.3 Amps receive (power save < 60 mA) 6 Amps, transmitting into 50 Ohms.

TRANSMITTER

RF Output:	High: 25 Watts Max Low: 5 Watts Adj.
Transmit Duty Cycle:	1:4 for 25 Watts Output
RF Switching Bandwidth:	VHF 26 MHz
Deviation limiting:	±2.5 kHz or ± 5 kHz at +20 dB AF Limiting.
Pre-Emphasis:	+6 dB per Octave, +1 dB -3 dB, 300 Hz to 3 kHz.
AF Distortion:	3%, below Limiting
Residual Modulation:	-40 or -45 dB

RECEIVER

Spurious Outputs:	< -75 dBc
Circuit Type:	Double Conversion Superheterodyne.
RF Switching Bandwidth:	VHF, 26 MHz
Intermediate Frequencies:	1st: 21.4 / 38.85 MHz 2nd: 450 kHz.
Sensitivity:	-121 dBm for 12 dB SINAD Unweighted.
IF Bandwidth:	15/7.5 kHz WB/NB
Adjacent Channel Selectivity:	-73 dB
Intermodulation :	74 dB
Blocking :	> 100 dB
Spurious Rejection:	> 75 dB
Audio Power:	4 Watts Average into 4 Ohms.
Audio Signal to Noise:	> 45 dB Unweighted
Conducted Spurious Emission:	<-80 dBm

ENVIRONMENTAL

Operating Temperature Range:	-10 °C to +60 °C
Storage Temperature:	-30 °C to +70 °C
Shock and Vibration:	MIL SPEC 810

MECHANICAL SPECIFICATION

Dimensions:	127 mm (W) x 29 mm (H) x 163 mm (D).
Weight:	614 grams

*Specifications are typical unless otherwise indicated and may be subject to change without notice or obligation.

WARRANTY

GME limit this warranty to the original purchaser of the equipment.

GME warrant the TX4800 to be free from defects in material and workmanship for a period of twenty four (24) months from the date of purchase from their authorised Dealer.

GME warrant the microphone to be free from defects in material and workmanship for a period of twelve (12) months from the date of purchase from their authorised Dealer.

Should the product require servicing during this period, all labour and parts used to effect repairs will be supplied free of charge. GME reserve the right to determine whether damage has been occasioned by accident, misuse or improper installation whereby the warranty would be void, including:

Equipment which has been damaged due to:

(a) Incorrect or reverse polarity connection to a battery or power supply.

(b) Connection to incorrect supply voltage.

(c) Operation without an antenna or by connection to an antenna which has been incorrectly installed, resulting in damage to the radio's output circuit.

(d) Effects of water or moisture penetration.

(e) Non-factory modifications.

Procedure to be followed by claimant: In the event of a defect occurring during the warranty period, the original Purchaser may return the defective unit along with suitable proof of purchase date (i.e. receipt, docket, credit card slip etc.) and a full description of the defect to the Dealer from whom the unit was purchased.

All freight charges incurred for transportation by the Dealer or GME are the Purchaser's responsibility.

The Dealer will forward it to the closest authorised GME Service Depot in your particular State.

GME AFTER SALES SERVICE

The GME Radio is especially designed for the environment encountered in mobile or portable installations. The use of all solid state circuitry, careful design and rigorous testing, result in high reliability. Should failure occur however, GME maintain a fully equipped service facility and spare parts stock to meet the customer's requirements long after expiry of the warranty period.

Website:

www.gme.net.au



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